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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/784,158	02/16/2001	Stephan W. Wegerich	086470/9013	1544

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EXAMINER
GUILL, RUSSELL L

ART UNIT	PAPER NUMBER
2123	

DATE MAILED: 01/18/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

	Application No.	Applicant(s)
Office Action Summary	09/784,158	WEGERICH ET AL.
	Examiner	Art Unit	
	Russell L. Guill	2123	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>05 December 2005</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 – 21, 25 – 28, 31 – 37 and 50 – 51* is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *1 – 7, 13 – 21 and 25* is/are allowed.

6)☒ Claim(s) *8 – 12, 26 – 28, 31 – 37 and 50 – 51* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *16 February 2001* is/are: a)☐ accepted or b)☒ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application (PTO-152)

6)☐ Other: _____.

DETAILED ACTION

1. This Office Action is in response to an amendment filed on December 5, 2005.
Claims 1, 8, 31 – 34 and 36 – 37 were amended. Claims 22 – 24, 29 – 30 and 38 – 49 were
cancelled. No new claims were added. Claims 1 – 21, 25 – 28, 31 – 37 and 50 – 51 are
pending. Claims 1 – 21, 25 – 28, 31 – 37 and 50 – 51 have been examined. Claims 1 – 7,
13 – 21 and 25 are allowable. Claims 8 – 12, 26 – 28, 31 – 37 and 50 – 51 are rejected.

Response to Arguments

2. As an initial matter, **the Examiner would like to respectfully thank the Applicant
for the well-prepared response,** which was useful in the examination process.

3. **Regarding claims 1, 8 and 13** rejected under 35 USC § 101:

   a. Applicant's arguments have been fully considered and are persuasive. The
   rejection of the claims has been withdrawn.

4. **Regarding claims 1, 8, 13, 26 and 32** rejected under 35 USC § 103:

   a. Applicant's arguments have been fully considered and are persuasive. The
   rejection of the claims has been withdrawn.

Drawings

5. The drawings are objected to because figure 7 contains entirely handwritten
numbers. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in
reply to the Office action to avoid abandonment of the application. Any amended
replacement drawing sheet should include all of the figures appearing on the
immediate prior version of the sheet, even if only one figure is being amended. The
figure or figure number of an amended drawing should not be labeled as "amended." If
a drawing figure is to be canceled, the appropriate figure must be removed from the

replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

a. **Claims 8 – 12, 26 – 28, 31 – 37 and 50 – 51** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

  i. **Regarding claim 8**, the claim recites, "a training module **disposed** to distill characteristic operational data." It is unclear whether this phrase is an intended use or a claim limitation. The Examiner suggests the language, "a training module to distill characteristic operational data."

  ii. **Regarding claim 8**, the claim recites, "and **for** training an empirical model of said empirical modeling module." It is unclear whether this phrase is an intended use or a claim limitation. The Examiner suggests

the language, "and <u>to train</u> an empirical model of said empirical modeling module."

iii.   **Regarding claim 26**, the preamble of the claim recites, "A system for monitoring activity of another system."   However, the end result of the claim appears to be a set of training vectors. It is unclear whether a step is missing from the claim.

iv.   **Regarding claim 26**, the claim recites, "said selected vector being a system snapshot provided <u>for</u> initial inclusion in a training set."   It is unclear whether this phrase is an intended use or a claim limitation. The Examiner suggests the language, "said selected vector being a system snapshot <u>to</u> initially include in a training set."

v.   **Regarding claim 32**, the claim recites, "a process for selecting at least one vector from each of the equally spaced ranges <u>for</u> training the adaptive model."   It is unclear whether this phrase is an intended use or a claim limitation. The Examiner suggests the language, "a process for selecting at least one vector from each of the equally spaced ranges <u>to</u> <u>train</u> the adaptive model."

Allowable Subject Matter

7. **Claims 1 – 7, 13 – 21 and 25** are allowable.

8. **Claims 8 – 12, 26 – 28, 31 – 37 and 50 – 51** would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

9. The following is a statement of reasons for the indication of allowable subject matter:

    a. **Regarding claims 1 - 7**: While Black, Freund, Klimasaukas and Passera teach a method of selecting input vectors for extraction of representative data for training of an adaptive model, none of these references taken either alone or in combination with the prior art of record teach the aforementioned method of selecting input vectors specifically including: ordering a set of training vectors according to a corresponding value in each vector of a particular sensor; dividing the set of training vectors according to equally spaced ranges according to the ordering;; and selecting at least one vector from each of the equally spaced ranges for training the adaptive model, in combination with the remaining elements and features of the claimed invention.

    b. **Regarding claims 8 - 12**: While Black, Freund, Klimasaukas and Passera teach an adaptive apparatus for monitoring a system instrumented with sensors, none of these references taken either alone or in combination with the prior art of record teach the aforementioned adaptive apparatus for monitoring a system instrumented with sensors, specifically including: an empirical modeling module responsive to the data acquisition means for providing indications about the operational states of the system; a training module disposed to distill characteristic operational sensor data acquired from the system to a representative set of sensor data for storing in the data store and for training an empirical model of said empirical modeling module, by selecting from the characteristic operational sensor data time-correlated observations representative of regularly spaced intervals along an ordering of the observations according to

values in the observations of a particular sensor, in combination with the remaining elements and features of the claimed invention.

c. **Regarding claims 13 – 21 and 25**: While Black, Freund, Klimasaukas and Passera teach a method of selecting a set of training vectors representative of a system, none of these references taken either alone or in combination with the prior art of record teach the aforementioned method of selecting a set of training vectors representative of a system specifically including: selecting a system parameter of a system; ordering a plurality of system vectors according to said selected parameter; binning said plurality of vectors according to said ordering of said selected parameter; selecting a vector from each bin; and selected said vectors forming a training set, in combination with the remaining elements and features of the claimed invention.

d. **Regarding claims 26 – 28 and 31**: While Black, Freund, Klimasaukas and Passera teach a system for monitoring activity of another system, none of these references taken either alone or in combination with the prior art of record teach the aforementioned system for monitoring activity of another system, specifically including: a control unit controlling a monitored system; a data acquisition unit receiving information from said control unit and from said monitored system and providing system snapshots therefrom, system snapshots representing the state of said monitored system relative to the time the snapshot is taken; a memory storing said system snapshots; a sorter sorting collected system snapshots responsive to a selected system parameter; and a vector selector binning sorted snapshots and selecting a vector from each bin and, said selected

vector being a system snapshot provided for initial inclusion in a training set, in combination with the remaining elements and features of the claimed invention.

e. **Regarding claims 32 – 37 and 50 – 51**: While Black, Freund, Klimasaukas and Passera teach a computer program product for selecting input vectors for extraction of representative data for training of an adaptive model, none of these references taken either alone or in combination with the prior art of record teach the aforementioned computer program product for selecting input vectors for extraction of representative data for training of an adaptive model, specifically including: a process for receiving signals as input from a plurality of sensors as a set of training vectors; a process for ordering the set of training vectors according to a corresponding value in each vector of a particular sensor; a process for dividing the set of training vectors according to equally spaced ranges according to the ordering; and a process for selecting at least one vector from each of the equally spaced ranges for training the adaptive model, in combination with the remaining elements and features of the claimed invention.

Conclusion

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Russell L. Guill whose telephone number is 571-272-7955. The examiner can normally be reached on Monday – Friday 10:00 AM – 6:30 PM.
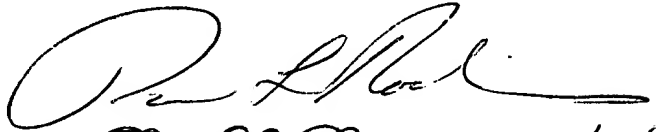
If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Leo Picard can be reached on 571-272-3749. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Any

inquiry of a general nature or relating to the status of this application should be directed
to the TC2100 Group Receptionist: 571-272-2100.

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you have questions on access to the Private PAIR system, contact the Electronic
Business Center (EBC) at 866-217-9197 (toll-free).

Russ Guill
Examiner
Art Unit 2123

RG

Paul P. Rodriguez   1/12/06
Primary Examiner
Art Unit 2125